

REMARKS

Applicants would like to thank the Examiner for the careful consideration given the present application. The application has been carefully reviewed in light of the Office action, and amended as necessary to more clearly and particularly describe the subject matter which applicant regards as the invention.

Summary of Changes Made

The application as filed with 7 claims. NO changes have been made and no new matter is added hereby.

Claim Rejections – 35 U.S.C. § 103(a) (Ogiso/Enomoto)

The Examiner rejected claims 1- 4, 6, and 7 under 35 U.S.C. 103(a) as unpatentable over Ogiso et al., U.S. 5,800,912, (“Ogiso”) in view of Enomoto et al., U.S. 6,953,815 (“Enomoto”). The Examiner contends that Ogiso discloses a molding composition for automobile exterior trim parts with high [gloss] comprising a polyolefin such as polypropylene with an ethylene content of less than 6%. The composition may include polypropylene/ethylene block copolymers, random copolymers, and rubber for impact resistance. The composition includes glitter pigment selected from flakes, powder or foil of aluminum, having particle sizes up to 500 microns and in an amount up to 3 pbw. Talc in the amount of 10 pbw (Table 2) having particle sizes of 2 microns is disclosed, and colorants disclosed include phthalocyanine blue and benzidine yellow up to 5 pbw. The Examiner admits that Ogiso fails to disclose amounts of talc used in the compositions. The Examiner contends that Enomoto discloses a molding composition for automotive parts, which can also be polypropylene, polypropylene/ethylene block copolymers, or mixtures thereof. Elastomers are also used. Talc is used at 1-50 wt%. Based on the foregoing, the Examiner concludes that it would have been obvious to use the amounts of talc from Enomoto in the composition of Ogiso to obtain the claimed invention.

The Examiner will note that Ogiso discloses a multilayer construction (core and skin), where the glitter pigment desirably settles to the interface between the skin and core layers, essentially leaving a clear top layer. The clear top layer is a clear glossy skin layer, for it has a “...clear layer containing no coloring agent on the outermost surface of the skin layer..” and it

“...exhibits deep gloss comparable to that of a conventional coated product.” (See column 4, lines 12-17). The pigment should be at least 5 microns in size to ensure sufficient settling to increase depth of gloss and glitter. (See column 4, lines 32-44). The glitter is mostly plate-like, unlike that instantly claimed, which is of undefined configuration, a term known in the art. As noted in Table 1, polypropylene having less than 6% ethylene is used in the glossy skin layer, while Table 2 shows that the 10% talc-filled rubber modified polypropylene is used in the core layer. No amount of talc in the clear glossy skin layer is disclosed.

Enomoto is cited solely for its teaching of talc loading (0.1-50%) in a method for continuous compounding and pelletization of a polyolefin-resin composition. Initially Applicants note that this disclosure of Enomoto adds nothing to the disclosure of Ogiso with respect to the skin layer of Ogiso, as no one of skill in the art would add an inorganic filler to a polypropylene layer that is intended to be clear and glossy! Such a modification would be completely contrary to the teachings of Ogiso!

Although the rubber modified polypropylene core layer of Ogiso (Table 2) discloses the use of 10 % talc, talc (and other inorganic fillers) are used by Ogiso only in the core layer, and not in the skin (i.e., gloss layer).

Were one to compare Enomoto's polyolefin-resin composition and Ogiso's skin layer, which is apparently what the Examiner is attempting to do, one continues to find deficiencies with the comparison. Ogiso's skin layer contains no more than 6% ethylene to ensure a Rockwell hardness of at least 85, Ogiso, col. 2, lines 60-62. The composition of Enomoto may contain as much as 8.45% ethylene, Enomoto col. 9, table entitled “<Mixing components>,” PO-3 $65\% \times 13\% = 8.45\%$. Such a high ethylene content would lead to a low Rockwell hardness, making a combination of the Ogiso and Enomoto patents impossible.

Further, high talc loadings, as taught in Enomoto, would cloud the skin layer of Ogiso, thereby defeating its necessity of being transparent. It is unclear to Applicants why one skilled in the art would combine the teachings of Enomoto (up to 50 wt% talc), with Ogiso, requiring relatively low amounts of solid fillers, at least a low enough amount, and in the right size, to ensure settling to the interface between the skin and core layers.

Applicants would also like to point out that the teachings of Ogiso are completely contrary to the teachings of and results desired in the present invention. More particularly, Ogiso teaches a polymer system wherein the aluminum plate-like glitter settles, and this type of a

result would be highly undesirable in a polymer blend like Applicant's wherein good metal and pigment dispersibility and distribution are required. See Applicant's specification paragraph [005].

Based on the foregoing, one skilled in the art would not combine the Ogiso and Enomoto references in the manner required by the Examiner to support the rejection. Applicants respectfully request the withdrawal of the rejection of claims 1-4, 6, and 7.

Claim Rejections – 35 U.S.C. § 103(a)

The Examiner rejected claim 5 under 35 U.S.C. 103(a) as being unpatentable over Ogiso and Enomoto as discussed above, in further view of Sugimoto et al., (2005/020892) ("Sugimoto"). The Examiner contends that the combination of Ogiso and Enomoto discloses all limitations of claim 5 except the amount of aluminum glitter pigment, and cites Sugimoto for this deficiency.

The Examiner contends that Sugimoto discloses molding polypropylene, propylene/ethylene block copolymers or mixtures thereof for automotive parts having a metallic appearance. The polymer range is 50-70 pbw, which the Examiner contends is the same as Ogiso, and talc in a particle size range within that of Ogiso is also disclosed. The glitter pigment disclosed can be a flake, powder or foil of aluminum used in an amount of 1-15 pbw. The Examiner admits that both the amounts of talc and aluminum flakes is higher than disclosed in Ogiso, no agglomeration occurred, and the resulting composition had higher flexural modulus, good flowability and impact strength.

Applicants invite the Examiner to focus on paragraphs [0009] and [0059] of Sugimoto. Paragraph [0009] discloses "an aluminum flake pigment comprising aluminum flakes, which surface is coated with a polymer containing as constituent units acrylic acid, an acrylic acid ester, epoxylated polybutadiene and divinylbenzene." Paragraph [0059] states "[t]he amount of polymer which coats the surface of the aluminum flakes is preferably 0.5 to 20 parts by weight, more preferably 1 to 15 parts by weight, based on 100 parts by weight of aluminum flakes."

Sugimoto discloses aluminum flakes coated with an acrylic based polymer, and the Examiner's recitation of the flake content in the overall polypropylene molding composition is

backwards; the recitation is actually the rate of coverage of the aluminum flakes by the acrylic based polymers. However, at paragraph [0067], Sugimoto does disclose that the aluminum flake is present at 0.005 to 10 parts by weight based on 100 parts of polypropylene in the final composition. More importantly, however, to the extent that Sugimoto includes teachings as to the aluminum particles, such teachings are directed to flake with a particle size of 60 μm , which is well outside Applicant's claims that concern the use of particles of undefined configuration and an average particle size of about 200 to 400 μm . Looking at Sugimoto for its teachings as a whole, there is no motivation to use this reference for its teachings of aluminum flakes without the acrylic-based polymer coatings, and in a particle size other than about 60 μm . Thus, Applicants respectfully submit that the rejection of claim 5 fails because the combination of the Ogiso, Enomoto, and Sugimoto references is improper, and not motivated.

CONCLUSION

Based on the foregoing, the Applicants respectfully request entry of the instant amendment and a Notice of Allowability for claims 1-7. If it is determined that the application is not in a condition for allowance, the Examiner is invited to initiate a telephone interview with the undersigned attorney to expedite prosecution of the present application. If there are any additional fees resulting from this communication, please charge the same to our Deposit Account No. 06-0625, our Order No. FER-15402.

Respectfully submitted,

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